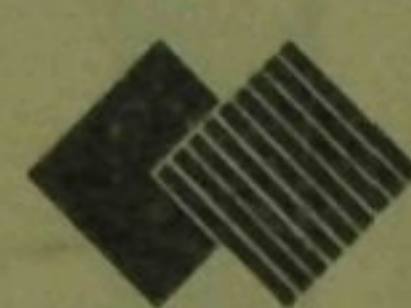


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1932

1932
ELECTRICAL
SHOW



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MARCH 31—APRIL 1, 2

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ALL-STEEL REFRIGERATOR



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1932 ELECTRICAL SHOW

UNIVERSITY OF ILLINOIS
URBANA, ILLINOIS

March 31 ~ April 1, 2, 1932
ELECTRICAL ENGINEERING LABORATORY
Sponsored by the students in electrical engineering

FACULTY

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Prof. J. T. Tykociner
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Prof. E. A. Reid
Prof. H. A. Brown
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Mr. C. E. Skroder
Mr. L. B. Archer
Mr. H. N. Hayward
Mr. L. L. Smith
Mr. S. R. Jordan

W. S. Goodspeed, Mechanician
G. H. Powers, Asst. Mechanician

For a full quarter of a century students in the Department of Electrical Engineering at frequent intervals have staged an Electrical Show. The object in mind in all of these shows has been to give the visitors an opportunity to learn about developments in Electrical Engineering. A student loan fund has been created from the profits of these shows. The chief reward which comes to the young men who prepare these shows is the valuable experience of learning how to organize and execute a group effort. The Electrical Show of 1932 will give the patrons much information regarding recent marvelous developments in the Electrical field. It is hoped that the electrical engineering loan fund may be substantially increased as a result of this show.

ELLERY B. PAINE.

March 23, 1932.

BOARD OF MANAGERS

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An Appreciation

The 1932 Electrical Show was made possible only by the cooperation and help of a great number of people. We, the managers, wish to thank our electrical department, the faculty and students, for their help and suggestions and for the use of apparatus in presenting many of the stunts. To all our commercial exhibitors and those who used our program for advertising, we extend our sincere appreciation. To all who have worked with us to make this show a success, accept our hearty "Thanks".

R. L. DOWELL
General Manager.

Electrical Engineering Laboratory

1. Mechanical Robot

The mechanical man—here he is! Even the imagination of Jules Verne could never have conceived this gentleman. Watch him carefully, his actions may not be the same as those of civilized human behavior.

Westinghouse Electric Company.

2. Glass Electrode Arc Light

Who said glass was a non-conductor of electricity? These glass electrodes are actually carrying current to the arc.

J. McCormack '32.

3. Electric Meters

The Sangamo Meter Works, Springfield, Illinois, has prepared this interesting exhibit of various parts and types of electric meters.

F. A. Ericzon '32.

4. National Carbon Company

Notice the numerous applications of carbon in the manufacturing of electrical apparatus, and also in the field of radio engineering.

5. The Strain Meter

This apparatus, including an engine indicator, oscillograph, strain meter, and cylinder head demonstrates the effects of engine knocks. It was developed in the research laboratories of the General Motors Corporation.

6. Illinois Power and Light Company

No display of electrical achievements would be complete without an exhibit of the many household appliances electricity has made possible.

Illinois Power and Light Company.

7. Sex Appeal Indicator

Girls, please be cautious. This is a very delicate instrument and any excess of appeal might seriously damage the mechanism.

N. C. Fetter '32, J. Grey '32.

8. Hughes-Krabbe Exhibit

The electrical appliances used in this exhibit are sold at the Hughes-Krabbe electric supply store in Champaign.

9. Mercury Arc Rectifier

The mercury arc rectifier changes alternating current to direct current. This type is used to charge storage batteries.

10. Radio Station WILL

The radio station will be open at all times during the show. Do not miss seeing it.

11. Telephone Control of Electrical Apparatus

Use the telephone in your home to control electric signs, heaters or lights at your store or office.

W. Willey '32, B. Stevens '32,
C. Broom '32.

EAT DO-NUTS AT DOWNYFLAKE—SIXTH & GREEN



12. Telegraphone or Magnetic Recorder

This marvelous device will actually store your speech in a steel wire and then after a short interval of time repeat the words you have spoken.

F. Miller '32, W. B. McCauley '32.

13. Synchronizing Lamps.

The difference in speed of the two generators is indicated by the brilliance of the lamps.

R. B. Bean '32, F. L. Holloway '32.

14. Houdini's Masterpiece

This steel ball is unaware of the laws of gravity and is kept in the vicinity of the earth only by the strength of a cotton thread.

B. M. Carothers '32.

15. Light the Candle Exhibit

Strike a match and light the candle. This contrary candle was loaned by the General Electric Company.

16. First National Bank Exhibit

Take the coins from the table without sounding an alarm.
General Electric Company.



17. Photo-Cell Counter and Announcer

This device counts the people entering the show and flashes them a welcome as they intercept the photo-cell beam of light.

M. J. Ericson '32.

18. Automatic Drinking Fountain

For your convenience this fountain is turned on as you approach it.

19. Jacob's Ladder

Watch an electric spark climb a ladder.

E. R. Heacock '32.

20. The Bucking Bronco

This motor illustrates the innate obstinacy of inanimate objects.

M. F. Smucker '33.

21. Selsyn Generators

Many applications of remote control are made possible by the use of this device.

K. Leiter '32.

22. Talking Beam of Light

By modulating a beam of light, voice and music are transmitted quite a distance with this apparatus.

F. M. Deerhake '32, G. Kuta '32.

23. Telsa Coil High Voltage Display

A nine-foot spark is produced by eight million volts, and corona discharge displays are produced from the same source.

N. C. Fetter '32, C. Cottingham '32.

24. An Early Amateur Radio Station

This exhibit shows the difference between modern amateur radio stations and those used by experimenters in 1912.

Synton, professional radio fraternity.

25. The U. S. Signal Corps in Action

This exhibit, employing radio, telephone, and telegraph communication between two stations, is an example of the functions of the Signal Corps during wartime conditions.

K. Green '33.

26. Electric Test Car

The University of Illinois test car is one of the few of its kind in existence and is completely equipped for various tests. Demonstrations of bond bond tests and graphic time charts, together with the display of modern electric railway equipment make this exhibit unique, in that it can only be found within the bounds of this car.

C. S. Steele '32, J. S. King '32,

S. H. Pierce '32, Lib Panichi

27. The Radio Controlled Car

This delivery truck is completely controlled by radio equipment on the back of the operator.

K. Green '33, J. Carpenter '33,

P. Harnden '35.

T-Bone Steaks at Downyflake's—Sixth and Green

Engineering Physics Society Exhibits

The following stunts and exhibits are being performed by students in engineering physics, a field of science closely related to electrical engineering. The Engineering Physics Society is sponsoring these exhibits.

The Spectroscope

The various lines given off by incandescent sodium and mercury are shown in the prism spectroscope.

Pseudospectroscope

The unusual effects of molecular spin are at last brought before the human eye by the pseudospectroscope (patented and copyrighted).

Molecular and Atomic Vibration

This model demonstration shows the effect of subjecting certain molecules to the vibration of light waves of various periods.

Electrodeless Discharges

Nitrogen Afterglow Tube

This nitrogen filled tube gives off a very peculiar orange afterglow after a current has been allowed to flow through the discharge ring for a short interval of time.

Argon Flash Tube

After an application of potential this argon filled tube becomes immediately dark and then suddenly gives a brilliant blue flash.

Figure Eight Tube

A discharge through this tube produces a brilliant crackling effect and at the same time induces a current through the glass into a copper strip on top of the tube as indicated by the ammeter.

These tubes have been loaned by Dr. C. T. Knipp who has done considerable research in conduction of electricity through gases.

R. J. Duffin '32, J. N. Nash '32,
J. M. Glass '34, H. L. Gibson '32.

Radio Laboratory Exhibits

Amateur Radiotelephone Station

Step up to the microphone and broadcast your voice over the radiotelephone. The receiving station is located in the Armory.

Neon Tubes

Observe closely the glowing filament of these neon filled glow tubes. Neon tubes are used extensively in the illumination of advertising signs.

The Mystery Lamp

This electric light is the latest development in the field of illumination. Why pay for electricity when the air is full of it.

Standard Frequency Set-up

A quartz crystal oscillator maintains a constant radio frequency.

Vreeland Oscillator

The oscillations in this circuit are produced by the mercury vapor tube.

Neon Light

Hold the neon bulb in your hand and watch it light.

Short Wave Receivers

Hear airport dispatches to planes, police calls, amateur communication, messages from airplanes, etc.

Radio Apparatus Exhibit

This exhibit includes modern radio frequency apparatus, receivers, tubes, measuring instruments, coils, etc.

D. Chapman '32, D. Sandberg '32,
P. Andris '32, J. M. Riddle '35.

Duplex Radiophone

This five-watt transmitter demonstrates the use of ultra short waves for short distance communication. It operates on a wave length of five meters.

F. L. Holloway '32.

Television Transmitter

Sit before the scanning eye of the television transmitter and at the same time observe your features in the receiver after they have been converted into electrical impulses and back into light.

Television Receivers

Here is a modern television receiving set. Programs are transmitted every day from Chicago.

F. J. Darke '32, L. E. Siemon '32,
W. A. Schlesinger '32.

The Store for Illinois Men
Style—Quality
—Value

Jos. Kuhn & Co.
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The Campus'
Most Popular
Confectionery

Hanley's

"Where Friends Meet"

28. Stroboscope

This instrument, by means of a neon lamp, will bring any periodic motion to apparent rest. It has found many important industrial applications such as observing the slip of an induction motor, fractures in rotating machinery, printed material while going through the press, etc.

D. L. Pettit '32.

29. Automatic Bean Sorter

No bad beans can pass by the accurate photo-cell eye of this unmerciful machine which, since its development by the General Electric Company, has eliminated the profession of bean sorting.

30. Miniature Electric Railway

From a central control station two well equipped trains operate over a large expanse of track. With high-speed switches, automatic crossing gates, bells, signal lights, and dial phone train dispatching this miniature of a modern railway is made very realistic.

C. S. Steele, S. H. Pierce, Lib. Panichi,
J. S. King, J. M. Grey, T. N. Dahlen, J. S. Ingles.

31. The Floating Ball

Magnetic, photo-cell controlled, forces permit this ball to float in the air, untouched by any supports.

R. H. Dey '32, C. Waldron '31.

32. Fly Power Motor

This miniature motor, manufactured by the Bodine Company, operates from a standard light socket.

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Cafe and Confectionery

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404 E. Green

Clayton Hall, Prop.

33. Tin Can Motor

This rotating tin can is a motor. It is similar to an ordinary induction motor in principle.

34. The Human Electrode

This man's constitution allows the current to flow through his body without any harmful effects.

35. Ring the Peg

The same old game in a different way. Try your luck and watch the results.

V. J. Reafsnyder '32.

36. Tom Carr Burglar Alarm

What chance has a burglar with a thing like this to warn people of his presence?

S. F. Malan '32, H. R. Long '32,
J. T. Blankinship.

37. Personality Tester

Step up and get an accurate electrical measurement of your personality. This indicator cannot lie.

D. Baer '34.

38. Traveling Electric Sign

Did you notice this sign above the main entrance. It was originally designed at this university a number of years ago. Be sure to see the mechanism that operates it.

D. J. Kitchen '32, F. J. Kriz '33,
G. A. Kolben '33.

39. Electric Chair

Many a tragic life has ended at this gruesome throne. Please be seated for a moment.

40. Free Illumination

This lamp is not connected by any concealed means to a power supply. It is only another example of the miracles of the electrical profession.

41. A Miniature Power Transmission Line

This transmission system is an exact model of existing lines and is used to study the characteristics of these lines.

H. Hall '33.

42. Electrical Recording and Reproduction

The purpose of this demonstration is to show the equipment and the method used in making sound recordings on records. Talk your next letter to the family into a microphone and let them reproduce it at home.

R. L. Porter '32, M. V. Liesenfelt '32.

Delicious Sandwiches at Downyflake's—Sixth and Green

FINE PICTURES AND FRAMING
KODAKS AND PHOTO FINISHING
GIFTS AND GREETINGS FOR ALL OCCASIONS

STRAUCH'S

At Campus— 709 So. Wright.
COLLEGE SUPPLIES.

43. Music From Electrical Discharges

By varying the capacities and inductances in an electrical circuit beautiful tones are produced in the loud speaker whenever discharges occur.

R. S. Mason '32.

44. 'The Talking Skull

Who said "Dead men tell no tales?" This skull of a famous scientist certainly disproves the theory.

R. A. Glakeney '32, F. H. Bennington '33.

45. Ever-Flowing Wine Bottle

Threats from local bootleggers will not permit us to divulge the secret of this famous bottle.

A. M. Daily '33, B. F. Buchan '33.

46. Heating Metal Under Water

Watch a piece of metal held under water get too hot to touch.

A. M. Daily '33, B. F. Buchan '33.

47. Power Transmission by Radio

Some day this may be the means of transmitting electrical energy.

A. M. Daily '33, B. F. Buchan '33.

Compliments

Bailey & Himes

Sporting Goods

606 E. Green St.

Champaign

48. Illumination Cabinet

Note all the illumination effects this exhibit is able to demonstrate. It was designed for use in our illumination course.

R. Pashby '32, P. Swain '32.

49. Power Cost Indicator

This meter indicates the cost of operation per hour of various household appliances.

R. V. Lahr '32, G. Volle '32.

50. Wave Reflector

Five meter high frequency waves are reflected by these curious copper rods.

H. Hall '33.

51. Main Switchboard

From this board power is supplied to all points in the laboratory, and interconnections of apparatus or machines are made through this board.

52. Calibration Laboratory

Laboratory instruments are calibrated and repaired in this room. The standard instruments used are checked by the Bureau of Standards.

53. Communications Laboratory

Model long distance communication lines are erected and operated under actual conditions in studying problems of communication in this laboratory.

54. Instrument Room

Instruments used by the students in laboratory tests are kept in a systematic manner in this room.

55. Direct Current Laboratory Supply

Alternating current from the University power plant is converted into direct current for laboratory use by these two, one hundred and eighty-five kilowatt, motor generator sets.

56. Recording Wattmeter

This meter records the power consumed in the laboratory at all hours of the day and night.

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THE CO-OP

Green and Wright Streets.

57. Storage Battery Room

Many research problems require a constant voltage power supply which is best obtained by these storage batteries. They will furnish as high as 300 volts.

58. Department Shops

The motors and generators in the laboratories are sometimes subjected to rough treatment. The department keeps this shop to repair damaged equipment and to make such special apparatus as may be needed.

59. Museum

Notice some of the first and oldest electrical machines ever designed, and the vast improvements that have been made in the comparatively few years since this equipment was in operation.

60. Lumigraph

These intricate patterns of light are produced by variations in the frequency on the neon discharge glow tube.

J. R. Johnstone '32, R. R. Wood '32.

61. Fijian Fire Beetle

Watch the beautiful streaks of light as this tropical beetle darts around the room.

R. R. Wood '32.

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